DISSENTING OPINION OF JUDGE WILBUR

WILBUR, Circuit Judge:

I dissent.

An explanation of my reasons for disagreeing with the opinion of the majority requires a detailed examination of the facts. The collision between the steamship Edward Luckenbach and the motorship Feltre occurred at 1:40 on the morning of February 17, 1937, in the Columbia River at a point between Cottonwood Island and Prescott, Oregon, about four miles above Longview, Washington. The question at issue herein is the responsibility for the collision. The Commissioner held both vessels at fault and the owners of the Edward Luckenbach entitled to limit their liability. The district court approved and adopted the findings and entered an interlocutory decree. From this decree both sides have appealed.

The Edward Luckenbach was owned by the Luckenbach Steamship Company, Inc., and the Feltre by the Societa Anonima Partecipazioni Industriali Commerciali.

The Societa Anonima Partecipazioni Industriali Commerciali and Navigazione Libera Triestina, S. A., the owner and operator of the Feltre, filed a libel against the Luckenbach Steamship Company, Inc., as owner and operator of the Luckenbach, and against the Luckenbach herself, to recover damages sustained by the Feltre and her cargo in the said collision. This libel was filed in the Northern District of California.

Thereafter, the Luckenbach Steamship Company, Inc., as owner of the Edward Luckenbach, filed in the District

Court for the Northern District of California, a petition for exoneration from or limitation of liability. The owners and operators of the Feltre and her cargo thereupon filed claims and answers in the limitation proceedings, as did the Spett Societa di Sicurata Fra Amatori, the underwriter of the Feltre's hull.

Objections to these claims and answers were filed by petitioner Luckenbach Steamship Company, Inc., which also filed a cross-libel against the owners and operator of the Feltre for damages sustained by the Luckenbach in the collision.

The trial court found as follows:

> "The Edward Luckenbach is a steamturbine vessel of about 6141 net tons burden, being 457 feet long and having a beam of 57 feet. At the time of the collision she was proceeding up the Columbia River bound for Portland, Oregon. She was partly loaded and had a draft of 14 feet 6 inches forward and 18 feet 6 inches aft.
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> "The Feltre, a motorship powered by means of a Burmeister Diesel engine, is a vessel of 6101 tons gross burden and 3773 tons net burden and is about 460 feet in length with a beam of 55 feet. At the time of the collision she was proceeding down the Columbia River bound to sea. She was carrying about 3500 tons of cargo and had a draft of 16 feet 2 inches forward and 18 feet aft.
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> "Prior to and at the time of the collision, the wind was estimated to be blowing from 25 to 60 miles per hour from a south southeasterly direction, or approximately directly down the Upper Cottonwood Island Range. The wind was striking the Feltre astern and was

striking the Edward Luckenbach on her starboard bow as the vessels proceeded toward the point where the collision occurred. Visibility was good, although it was raining, and was estimated by witnesses to be from three to six miles. The tide was ebb and was running against the Luckenbach; and the set of the tide and current was toward the Washington side of the river in the vicinity where the collision occurred. The current was running at a speed of about two knots per hour. The vessels sighted each other when the Edward Luckenbach was below the red flashing buoy on Dobelbower Bar and the Feltre was about Prescott.

"The Columbia River in the vicinity where the two vessels were navigating for some time prior to and at the time of the collision is a narrow channel within the meaning of Article 25 of the Inland Rules (33 U.S. Code, section 210), and said Article 25 was applicable to the navigation of both vessels in approaching and passing each other.

"Both vessels had been proceeding with engines at full speed ahead for some time prior to the collision and both vessels continued with engines at full speed ahead until the impact. The speed of the Edward Luckenbach was about 7.77 knots per hour over the ground and the speed of the Feltre was about 12 knots per hour over the ground.

"The two vessels collided at a sharp angle. The stem of the Edward Luckenbach struck the Feltre on her starboard side at the No. 2 hatch and ripped off a considerable section of the Feltre's plating, as a result of which the Feltre sank.

"The collision occurred about four miles above Longview, Washington, at a point between the upper

end of Cottonwood Island and the lower end of Prescott Dock, and, with respect to the channel, the collision occurred between the Upper Cottonwood Island Range and a point 300 feet to the right of the Upper Cottonwood Island Range, proceeding upstream.

"The collision and the resulting damage to both vessels and to the cargo carried on the Feltre was due to and caused by the negligent navigation and faults of both vessels in the particulars hereinafter set forth.

"The steamship Edward Luckenbach and petitioner were guilty in the following respects of negligent navigation and faults which contributed to and caused the said collision and consequent damages:

"1. She violated the narrow channel rule in that she navigated too far to her own left and crossed the Upper Cottonwood Island Range.

"2. She failed seasonably to sound the danger signal and failed to stop and reverse under the attendant circumstances and conditions.

"3. She proceeded at an immoderate rate of speed for the conditions prevailing.

"4. She failed, in a channel of ample width to enable the vessels to pass safely without crowding, to navigate so as to allow a safe margin for passing the Feltre.

"5. She failed to take any compass bearings of the approaching Feltre, a precaution which would have permitted her to observe a safer margin in passing the Feltre.

"The Feltre and those in charge of her navigation were guilty in the following respects of negligent nav-

igation and faults which contributed to and caused the said collision and consequent damage:

"1. She did not have a proper lookout in that no lookout was stationed in the bow of the ship and no member of the watch was stationed elsewhere for the sole purpose of acting as lookout.

"2. She failed to sound the danger signal and failed to stop and reverse as required by the attendant circumstances and conditions.

"3. She sounded a two-blast signal and altered her course to her own left before the Edward Luckenbach assented.

"4. She violated the narrow channel rule by swinging to her own left across the Upper Cottonwood Island Range.

"5. She proceeded at an immoderate rate of speed for the conditions prevailing.

"6. She failed in a channel of ample width to allow a safe margin for passing the Edward Luckenbach.

"7. She failed to take any compass bearings of the Edward Luckenbach as the two vessels approached each other, a precaution which would have permitted her to observe a safer margin in passing the Edward Luckenbach."

A copy of the government chart of the locality is incorporated in the majority opinion, with explanatory remarks inserted thereon. The location of the wreck of the Feltre is indicated by an arrow. I shall refer to the ranges and the lights as indicated on the chart without further description except where necessary to explain the point under discussion.

The meridian line of the chart is at an angle of about 45° with the vertical line of the chart as printed in the opinion. The course along the lower Cottonwood Range is 126°. The course along the Upper Cottonwood Range upstream is 173°. The terms upper and lower range are used to distinguish between two ranges, one of which is farther downstream than the other. I shall refer to the easterly and northerly bank on the Washington side of the stream as the Feltre's side of the channel, and the southerly and westerly side of the stream, that is, the Oregon side, as the Luckenbach's side of the channel.

I agree, as the lower court found and the majority opinion holds, that the vessels were obligated to follow the narrow channel rule in their relation to each other as they approached for passing. The chart shows the wreck of the Feltre about 300 feet from the upper range on the Luckenbach's side of the channel. There is some dispute between the parties as to whether or not the location of the wreck of the Feltre is at the point of collision, the Feltre claiming that the collision occurred on the Upper Cottonwood Island range and that the Feltre was shoved off the range to her present location by the Luckenbach in the collision.

The character of the injuries to the Feltre and her cargo would indicate a sudden sinking. Divers examining the wreck found certain wreckage on the bottom located about 15 feet from the starboard side of the Feltre and 55 feet upstream from the point on the Feltre from which they were detached by the force of the collision. The anchor flukes of the Luckenbach which were broken

off by a boat davit on the Feltre were also found in the same relation to the wreck of the Feltre, indicating a movement of 55 feet downstream and 15 feet transversely.

I conclude that the collision occurred 55 feet upstream from the position of the Feltre wreck while she was 15 feet farther to her right than the position of the wreck.

The place of the collision corroborates the testimony of the Luckenbach that she was proceeding upstream on her own side of the channel, in conformity with a one-blast signal given by the Feltre and answered by the Luckenbach, when the Feltre sounded two blasts and turned to her left to the point of collision and that the Luckenbach, while sounding the danger signal, attempted to conform to the two-blast signal by turning to her left to the point of collision. It also tends to negative the contention of the Feltre that the Luckenbach began to cross to the wrong side of the channel, thus justifying the two-blast signal and left turn of the Feltre, and then turned to her right to recross the bow of the Feltre just before the collision. As the point of collision is virtually decisive of the case I shall answer more fully some of the arguments advanced on behalf of the Feltre to support her contention.

It is claimed the Feltre was proceeding downstream on the upper range, which would give her a heading of 353°; that the Luckenbach crossed her bow from left to right when only a thousand feet away, then turned back to her own right and struck the Feltre's starboard side before the Feltre could alter her course. That is to say, that the Feltre, during the 1,000 feet, would continue to advance

along the course she was then steering and not in the direction of the new heading because of the principle known as the advance of a vessel during turning.[1] In

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[1] "Under the laws of physics governing the movement of a vessel through water, the 'Feltre' could not have veered appreciably from her old course before the collision. Even after her head began to change direction, her hull continued to 'crab' straight ahead or even to leeward. The subject is clearly and accurately discussed by the outstanding book on navigation—Knight's Modern Seamanship 8th edition.

"In discussing the subject of the steering of steamers, he has the following to say: (p. 328)

> " 'The first effect of putting the rudder over is to throw the whole mass of the ship off to leeward, so to speak; that is to say, to the side opposite that toward which it is desired to gain ground. The stern goes off most; but the whole ship, except the extreme bow, is thrown more or less to this side, and some experiments have seemed to show that even the bow goes off at first.
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> " 'The ship ranges ahead nearly along the line of her original course, but slightly to leeward of it, for a distance which may be roughly stated as from two to three ship's lengths, before she commences to gain ground in the desired direction.
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> " 'The momentum of the ship along her original course persists for a time and drives her on along this line in spite of the forces which are turning her head away from it.
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> " 'The stern does not finally clear the line of the original course until it has covered from two to three lengths measured along that line. In the meantime, the ship's head has changed by more than three points.'

"Moreover, the Commissioner recognizes the soundness of the contention of Admiral Knight, that a ship

short, the argument is that the Feltre skidded into the Luckenbach along the course she was pursuing at the time the two-blast signal was given by the Feltre which would mean that the collision must have occurred upon the upper range if the Feltre was proceeding along it as she claims. The Feltre's deduction from this situation is that she was pushed to the point where she sank after the collision and that she did not leave her side of the channel until forced over by the Luckenbach. My conclusion is that the Feltre's argument that the collision occurred on the upper range is not sustained but, on the other hand, the argument leads to the conclusion that the

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ranges along her course for two or three lengths, after a helm order is given and executed, in holding as follows:

> "'It is an established fact that a ship does not begin to change her course immediately upon changing rudder, but will actually move away from the direction of the turn, or pursue her old course before it proceeds in the new course. The distance thus achieved along the new course is called "advance".'
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"Knight's book sets out diagrams showing that a vessel 420 feet long (the 'Feltre' was 460 feet long) proceeds for over 600 feet along her old course before beginning to make actual progress on the new course, away from the old. Her heading may change by 3 points (33 degrees or more), but the path followed in the water by her hull continues along the old line.

"In this case Knight's principle means that while the Feltre's heading may have changed to the left 20 degrees (as Second Officer Magris testified), her hull continued along her old path on the Cottonwood range, right up to the time of collision."

Feltre was proceeding on the wrong side of the channel when she was struck by the Luckenbach.

Moreover, in addition to the circumstantial evidence as to the place of collision, which is well-nigh conclusive, there is direct evidence of the pilot and the helmsman of the Feltre that before her two-blast signal the Feltre had already turned off the upper range to the left, presumably for the purpose of following the channel which passes between the flashing red buoy and the green light, and that instead of steering directly toward the upper range lights the Feltre was then being steered with the range lights on her starboard bow. I quote from their testimony in the margin.[2] I recognize that these wit-

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[2]Captain Turppa:

"Q. Prior to your blowing two whistles were you or were you not still steering by the range lights on the Upper Cottonwood Range?

"A. I was, but I changed it, because the Feltre was slow-steering; she didn't change her course very much.

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"Mr. Graham: I understand, yes. Captain, at the time you blew the two whistles on the Feltre were you or were you not on the Cottonwood Island Range?

"A. I was on the Cottonwood Island Range, but I steered off from it a little bit. I was just starting to swing when the Luckenbach came from my starboard side and nearly headon."

Cernolli, wheelsman:

"Q. Could you tell whether the lights of the ship which you saw were or were not coming toward your ship?

"A. Yes, they were coming towards our bow.

"Q. And how did the white lights which you

nesses also gave contrary testimony, but the statements set out herein are more in harmony with the known facts and other testimony. In evaluating this testimony it should be observed that the pilot in command of the Feltre was not using compass courses to steer by but was conning the ship with reference to the navigational beacons and that at the particular time involved in this action, the helmsman who had been steering with the upper range lights dead ahead had apparently been directed to swing to the left from the range without being given any exact or accurate course to steer.

With such steering it is quite understandable that the Feltre may have swung to her left too far and too soon and in so doing placed the Luckenbach between herself and the range lights. As there are considerations which

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were steering by bear at that time?

"A. You mean the shore lights? The shore lights were on my starboard.

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"Mr. Graham: He has already testified that the lights he was steering with bore dead ahead of him.

"Mr. Dorr: No, that was testimony of counsel, statement.

"Mr. Graham: I don't think it was. Let me ask you, when you first saw the vessel, the lights of a vessel, on your port end [hand], as you testified, where did the lights that you were steering by bear?

"A. Directly at our bow. Directly at our bow. I am talking about the shore lights. Of course, I don't know anything about the position of the lights. It is dark, I don't know anything about the position. I only follow the instructions of the pilot."

tend to contradict this conclusion I do not attempt to find the exact course pursued by either vessel. It is enough to say that the evidence indicates a clear fault on the part of the Feltre in leaving her side of the channel with no clear, convincing proof that the Luckenbach was in the wrong;[3] on the contrary, the circumstantial evidence and the quoted testimony given by pilot and wheelsman of the Feltre corroborates the testimony of the Luckenbach that she was at all times on her own side of the channel and that the collision resulted from the action of the Feltre in leaving her side of the channel. (The City of New York, 147 U.S. 72, 85; The Victory & The Plymothian, 168 U.S. 410, 423.)

The Feltre and the cargo claimants, in order to exculpate the Feltre from fault in making a sudden change of course to her left, advance the claim that the Luckenbach, in violation of the Feltre's right of way and pre-

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[3] "Where fault on the part of one vessel is established by uncontradicted testimony, and such fault is, of itself, sufficient to account for the disaster, it is not enough for such vessel to raise a doubt with regard to the management of the other vessel. There is some presumption at least adverse to its claim, and any reasonable doubt with regard to the propriety of the conduct of such other vessel should be resolved in its favor." The City of New York, 147 U.S. 72, 85.

"As between these vessels, the fault of the Victory being obvious and inexcusable, the evidence to establish fault on the part of the Plymothian must be clear and convincing in order to make a case for apportionment. The burden of proof is upon each vessel to establish fault on the part of the other." The Victory and The Plymothian, 168 U.S. 410, 423.

vious one-blast signal, began to cross the Feltre's bow to the wrong side of the Upper Cottonwood Island range, and thus produced a situation which justified the Feltre in acting in extremis to attempt to avoid the collision by a left wheel as she did. To support this conclusion which, as I have already pointed out, is inconsistent with the location of the collision, it is attempted to reconstruct the whole course of the Luckenbach from the time she left the Longview Bridge until the time of the collision. This attempt is based largely upon the automatic record of the gyro compass course and time shown by the automatic gyro compass recorder on the Luckenbach which shows the heading of the ship at all times during this period. In order to interpret the gyroscopic compass record the recording roll was sent to the Sperry Gyroscope Company which examined the record and from it certified the compass heading for each minute of time from 1:15 a. m. when the Luckenbach passed under the Longview Bridge until 1:41 a. m., the time of the collision.

With these headings and corresponding times Captain Conway, an expert pilot, attempted to draw upon a chart the course indicated by the gyro record. There are several reasons why his charted course should be entirely disregarded. In the first place, the record certified by the Sperry Gyroscope Company is not as accurate as it might have been. The company certified that: "A more accurate and closer check of this Course Recorder record could be made with a special instrument we have for that purpose. This instrument is at our New York office but could be brought here if necessary."

Second, the record did not take into account the effect of the ebb tide or of leeway on the actual course of the vessel.

Third, the course drawn necessarily assumes the element of distance which in turn involves the speed of the vessel, as to which Captain Conway made no satisfactory assumptions and reached no reasonably acceptable conclusions.

One illustration of the difficulties presented by his charted course is shown by the contention of the parties with relation to the course from the white light on the Middle Dike to the passage between the red and green lights off Dobelbower Bar.

Captain Conway showed this space to have been traversed in two minutes, the first minute at 151.5° and the second at 152°. The distance thus run is 3,000 feet which would require a speed of 15 knots. As the Edward Luckenbach could not make more than 13 knots under the most favorable conditions and was heading against an ebb tide estimated at a knot and one-half or two knots, the Feltre argues that the time during which the Luckenbach travelled at approximately 151.5° was about three minutes, that is, that it took three, and not two, minutes to pass between these points. From this point it is argued that the speed was 10½ knots, instead of 15 as shown by Conway's charted course, which speed of 10½ knots conforms to the testimony of some of the witnesses as to speed. The difficulty with this argument is that it proves the chart to be utterly worthless. That is to say, instead of proving it to be accurate it proves that the chart shows

that a certain distance was traversed in two minutes whereas it was actually travelled in three minutes.

The course traversed by the Luckenbach up to the time the two vessels sighted one another when one and one-half miles distant is entirely immaterial. The Feltre and cargo claimants rely so strongly upon the contention that the evidence shows that during that period the Luckenbach was travelling on the wrong side of the channel that perhaps something further should be said on the subject. It is true that in navigation the course and distance traversed between changes of course are considered in determining the position of the vessel at any given time. This approximate method is called dead reckoning. A position ascertained by dead reckoning always gives way to the more correct determination of the actual position by astronomical observation, or by a fixing of the position of the vessel with reference to distance and direction from known objects or monuments. For illustration, if the Luckenbach passed within 150 feet of the flashing red buoy, as her witnesses testified, it is of no significance that the course charted by Captain Conway placed the ship within 300 feet of the green light. The difference would merely show that Captain Conway's course was wrong.

The cargo claimants have introduced testimony of several witnesses to show that the Edward Luckenbach, while passing between these red and green lights, was within two or three hundred feet of the green one on the wrong side of the channel.

Before proceeding to consider the testimony of these witnesses separately, I draw attention to a fact which

must be remembered with reference to all of them; that is, that it is impossible for a person observing a light more than a few hundred feet away to tell how far away the light is. This known fact was shown by the testimony of Captain Turppa, pilot of the Feltre, who, when asked whether his ship was 1500 to 2000 feet from the Edward Luckenbach when he gave his two-blast signal, replied, "Probably so, but in the night time it is awful hard to tell, when you have got a light ahead of you, it is hard to judge the distance." Captain Stayton, another witness, also testified that it is impossible to judge the distance of a light with any degree of accuracy. With this fact in mind, I turn to an examination of the testimony offered by the cargo claimants.

The first of the witnesses mentioned was Captain Turppa, pilot of the Feltre, who testified that the Edward Luckenbach was "unusually close", "very close to the green light" when she passed between the two lights. As indicated by him on a chart, the distance was approximately two hundred fifty feet. Had the Edward Luckenbach been approaching directly toward the witness, her apparent position in relation to the red and green lights would have remained constant, and could have been observed with accuracy at any time, whether while she was in fact between them, or before or after. However, as Captain Turppa himself testified, the Edward Luckenbach was not coming toward him, but was on a course crossing his bow from left to right. Under these conditions, her lights would have appeared to move steadily from the red light toward the green one, and it would have been only in the moment that she was in

fact crossing the line between the two lights that he could have seen her true position in relation to them. Thus, the accuracy of Captain Turppa's observation of the relative distances between the ship and the red and green lights, depends upon the accuracy of his determination of the precise instant when she was crossing the line between the lights. Such a determination, however, could only rest upon his estimate of her distance from him; and since he could see nothing of her but her lights, he had no way of determining the distance.

Captain Turppa estimated this distance to have been half a mile at the time that he believed the Edward Luckenbach to be between the lights. Since the Edward Luckenbach and the Feltre were approaching the point of collision at speeds of about twelve and ten knots, respectively, the Edward Luckenbach, when half a mile from the Feltre, would have been about 1382 feet downstream from the point of collision. If she was in fact that far up the stream, and moving in the direction to which Captain Turppa testified, reference to the chart will show that she must in fact have passed between the red and green lights about three minutes before, close to the red one, although she appeared to Captain Turppa to be between them at the later time and closer to the green.

The second witness offered by the cargo claimants to establish the Edward Luckenbach's position as nearer the green light was Lloyd Deuchar, watchman on duty on the bridge of the tug Georgia Burton. The Georgia Burton, with five barges in tow, was proceeding up the right hand side of the channel at a speed which Deuchar

could only describe as "slow", and which her pilot, Captain Carrau, estimated as about four knots. Deuchar fixed the position of the Georgia Burton as about opposite the Dobelbower white light, (half a mile upstream from Rainier) when the Edward Luckenbach made her first turn from the general direction of the lower range. (126° to 151°)

Deuchar estimated that his vessel was then about a mile astern of the Luckenbach. The distance marked by him on the chart is about a mile and a quarter. We have already pointed out that no reasonably accurate estimate can be made of the distance of a light at night. Deuchar, however, claimed to have been able to fix the position of the Edward Luckenbach upstream at various points. He stated that he knew that she had passed the Middle Dyke light some distance before she began to turn (from 126° to 151°), because he could see open water between the light and the ship, and that he could tell when she was between the red and green lights because "she opened up the lower range, then she opened up the red light," and that he could put her lights in a line with the two shore lights, and see that she was nearer the green.

An examination of Deuchar's testimony and chart shows that after making her first turn, the Edward Luckenbach was moving to his right at an angle of 25° with his course as he observed her. It follows that he, as Captain Turppa, could only observe her relative position when between the red and green lights at the moment when she was actually crossing the line between them, and that moment he had no way of determining. His

explanations, referred to above, as to how he fixed the Edward Luckenbach's position with respect to her distance from him, will be seen on examination to have no merit. Everything which he observed would have had the very appearance which he described, whether the Edward Luckenbach was where he thought her, or very much closer to him, so long as she was in the same direction from him. That she was in such a closer position is the testimony of her own officers, and Deuchar was not in a position to observe anything by which this testimony could be refuted.

The third of these witnesses offered by the cargo claimants was Captain Carrau, pilot of the Georgia Burton. He testified that the Edward Luckenbach passed him just at the upper end of Rainier, and turned to the right after getting well past the Middle Dyke light and close to the green light. He said that it would be "pretty hard" for him to tell how close she was to the green light; and as I have already shown with reference to Captain Turppa and Deuchar, it would in fact be impossible for him to estimate the distance. Captain Carrau attempted to fix the position of the Edward Luckenbach as passing near the green light by stating that she shut it off from him; but that would have been equally true had she turned to the right much farther downstream than he thought.

It should also be observed that if the Georgia Burton was just at the upper end of Rainier when the Edward Luckenbach passed her, as Captain Carrau testified, and was opposite the Dobelbower white light when the Edward Luckenbach turned, as Deuchar testified, and her

speed was four knots or more, as stated by Captain Carrau, then only about eight minutes can have elapsed between those events. For the Edward Luckenbach, in those eight minutes, to have traveled from the upper end of Rainier to the point fixed by Deuchar and Captain Carrau as her place of turn she would have had to move at a speed of about fourteen knots. Since her top speed, without adverse wind or tide, was thirteen knots, it seems much more likely that she turned farther downstream than Deuchar and Captain Carrau believed.

The fourth of these witnesses offered by the cargo claimants was Captain Stayton, pilot of the West Camargo. The West Camargo was a freighter which left Longview, bound upstream, just as the Edward Luckenbach was passing. Her speed was about eight knots over the ground. When the West Camargo reached the lower range, a mile upstream from Longview, the Edward Luckenbach appeared to Captain Stayton to be about a mile and a half farther upstream, either on the range or within a ship's width of it to the left. He could see nothing of her but her stern light. At a point which Captain Stayton believed to be about opposite the Middle Dyke light the Edward Luckenbach turned to the right (126° to 152°); but he stated that he could not tell whether it was abeam of the light or above or below it. He testified that when she passed between the red blinker and green light he could see that she was in the half of the channel nearer the green light, about one-third of the way from the green to the red. He saw the Feltre at that time about opposite the upper end of the Prescott dock, but could not tell whether she was in her right

or left half of the channel. He did not notice the Edward Luckenbach after she passed the flashing white front light of the upper range, and at that time she had not crossed to the left of the upper range.

Captain Stayton himself repeatedly pointed out that it was impossible to judge the distance between him and the Edward Luckenbach. His estimate of a mile and a half is obviously erroneous. The two ships were at Longview at the same time, and the highest estimate of the Edward Luckenbach's speed (based on the time it took her to go from Longview Bridge to the Middle Dyke) is about twelve knots. If the speed of the West Camargo was eight knots, the Edward Luckenbach would have been only half a mile, rather than a mile and a half, upstream from the West Camargo when the latter was a mile from Longview.

Captain Stayton, who was himself on the lower range, contradicts the testimony of other witnesses, (Deuchar and Carrau) whose point of view was less advantageous, that the Edward Luckenbach was substantially to the left of the range. He was admittedly unable to tell how far upstream she was when she turned from 126° to 152° and he would for the same reason have been unable to tell when she was in fact between the flashing red buoy and green lights. Thus his testimony so far as it rests on matters which it was within his power to observe supports, rather than conflicts with, the contention of the Edward Luckenbach that she was at all times on her side of the channel.

The Feltre owners have attempted by the testimony of officers and men of their own ship to establish the course of the Edward Luckenbach from the time she passed between the flashing red buoy and fixed green light until the collision. Captain Turppa, pilot of the Feltre, testified that he was steering directly down the Upper Cottonwood Island range (353°) prior to the collision, and that the Edward Luckenbach was proceeding steadily on a course which, as he drew it on a chart, was of 155°, intersecting the course of the Feltre on the range less than a ship's length upstream from the front light of the upper range. The speed of the Feltre he estimated as twelve knots over the ground. He stated that he blew a one-blast signal for a port-to-port passing, just after the Edward Luckenbach had passed between the flashing red buoy and fixed green light, which he estimated to be about a half mile away from the Feltre. He heard no answer to this signal and testified that the Edward Luckenbach held a steady course. He testified that he continued on his course, 353°, until the Edward Luckenbach crossed his bow, so that she obscured the lights of the Upper Range on which he was steering, and continued to hide them from him until after the collision. Upon seeing his range lights obscured, Captain Turppa ordered his wheel left (or hard left) and blew a two-blast signal for a starboard-to-starboard passing, believing, as he testified, that a port-to-port passing was no longer possible. He believed the ships then to be 1500 to 2000 feet apart. Captain Turppa was unable, because of the darkness, to fix his position up or down stream at the time this was done, except that he was below Prescott. He testified that the

Feltre had just begun to swing left when the Edward Luckenbach, which he testified had held a steady course up to that moment, "all at once * * * whirled right around and came over at him." He testified that within half a minute after his two-blast signal was given, the Edward Luckenbach hit the Feltre on her starboard side abreast of the number two hatch, pushing her three hundred feet off the range to her left and that the Feltre sank about 450 or 500 feet downstream from the place of collision.

Captain Turppa's testimony that the Edward Luckenbach held a steady course until immediately before the collision is contradicted by the automatic record of her compass heading,[4] and his estimate of the Edward Luckenbach's position when, as he testified, she obscured the range lights is inconsistent both with his estimate of the distance (1500 to 2000 feet) between the vessels at that time, and with the actual place of collision, which would necessarily have been at least a quarter of a mile farther downstream, had his placing of the Luckenbach been correct.

I conclude that Captain Turppa's account of the accident is so at variance with established facts as to be altogether unreliable.

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[4]This mechanical record establishes that the Edward Luckenbach did not run on a steady course after passing the flashing red light and until the two-blast signal of the Feltre, as the Feltre's pilot testified. On the contrary, her course had varied from 152° to 188.5°. The change of course in the last minute from 188.5° to 180.5° indicates her effort to comply with the two-blast signal of the Feltre and also indicates why the Edward Luckenbach struck the starboard side of the Feltre.

Other witnesses on the Feltre, whose testimony was introduced, were Carlo Cernolli, the wheelsman, Ezio Magris, second officer, who was on the bridge, Mario Rainieri, the captain, and Antonio Roiaz, a sailor.

Cernolli testified that he was steering on the range lights, which were in a straight line "directly on the bow", though he also stated, as previously noted herein, that they were on his starboard. He stated that the Feltre blew a one-blast signal, to which he heard no answer; that about two minutes later the Edward Luckenbach crossed his bow, and the Feltre blew two blasts and ordered hard left. He testified that he could not remember whether or not the Edward Luckenbach obscured the range lights as she crossed his bow, and, that she did.

Immediately prior to the crash, and after the hard left order was given, Cernolli saw the Edward Luckenbach's mast lights and green running light on his starboard hand. He testified both that the Feltre swung left in response to the hard left wheel before the collision, and that he could not recall whether or not she had done so. It is apparent that his testimony as to the course of the Edward Luckenbach is opposed to her automatic compass record, and to that extent is untrue.

Ezio Magris, second mate of the Feltre, was on duty on the bridge at the time of the collision. He testified that the ship was steering on the upper range lights, directly ahead in line, at a speed of 12 knots over the ground. The Edward Luckenbach was first seen 1½ miles off on a course crossing their course at an angle of

from 40° to 50°. Magris also saw the flashing red buoy but could not estimate the Edward Luckenbach's distance from it. The Edward Luckenbach holding this steady course, the Feltre, when they were about three-quarters of a mile apart, blew a single blast. The Edward Luckenbach gave no reply, and made no change in her course, continuing across the Feltre's bow until when about a quarter mile ahead she obscured the range lights. At that instant the Feltre blew two blasts and her wheel was ordered hard left. The Edward Luckenbach continued to the Feltre's right, and the Feltre swung to her left, turning about 20° in the thirty seconds following the two-blast signal. This he testified placed the two vessels about parallel and far enough apart to pass safely starboard to starboard. Then the Edward Luckenbach swung suddenly to her left, and her bow hit the Feltre on her starboard side at the number two hatch, forward of the bridge. The Feltre heeled slightly to her left, then within three or four seconds listed to her right at an angle of about 45°. After drifting for a few minutes, she came to rest on the bottom.

This testimony, like that of Captain Turppa and Cernolli, is irreconcilable with the Edward Luckenbach's compass headings.

Captain Rainieri, master of the Feltre, was not on deck at the time of the collision, but was in his cabin under the bridge, on the starboard side. He heard the single blast, and no answer. Then he heard the double blast, and recognizing it as abnormal, looked out of a starboard porthole, but could see nothing. He then started up to the bridge, and the collision came within 30 or 40

seconds, and before he reached it. The Feltre first listed slightly to the left under the impact, then about 40° to the right, and sank rapidly. Prior to the collision, the ship was steering on the range lights, at a speed of 12½ to 13 knots over the ground, the speed of the current being from one to 1½ knots.

The last Feltre witness whose testimony could shed any light on the conduct of the Edward Luckenbach was Antonio Roiaz, a sailor who had been on the bridge but had gone below to make coffee before the collision. He testified that immediately on hearing the two whistles he looked out from the port side of the Feltre, and saw the stern of the Edward Luckenbach crossing the Feltre's bow but could not estimate its distance away. He heard no whistles from the Edward Luckenbach. He returned to the pantry, and the collision followed shortly. He estimated the interval between the single and double blasts as about a minute.

This testimony tends to corroborate that of Captain Turppa; but, for reasons which I have already stated, I cannot accept the theory that the Edward Luckenbach in fact crossed the bow of the Feltre in the manner described.

The cargo claimants also offered the testimony of Fred Closner. Closner was a track walker who observed the collision from a railroad track close to the Washington shore, at a point about five-eighths of a mile upstream from Carrolls Bluff.

Closner testified that he watched the Feltre and the Edward Luckenbach approaching one another for six

or seven minutes up to the time of the collision; that the Feltre was moving downstream on her right hand side of the river and that she turned slightly away from him just before the collision; that the Edward Luckenbach came steadily toward him across the river, until she turned rapidly to her right half or three-quarters of a minute before the collision; and that the collision occurred on his side of the river.

Perhaps the first comment to be made on Closner's testimony is that Cottonwood Island interposed between him and the main part of the river where the collision occurred. This would in itself make it difficult for him to judge the position of the ships in relation to the sides of the river. He testified that he could not tell if the ships moved toward him or away from him after the collision. It is not shown that he knew the location of the navigable channel and he did not claim to locate the ships with relation to the channel, which is the point in dispute.

It will also be noted that Closner's statement that the Edward Luckenbach pursued a steady course toward him until half or three-quarters of a minute before the collision is refuted by her gyro record which shows a steady turn to the right for the period from three minutes before the collision to one minute before it. All the evidence to the contrary is insufficient to overcome the evidence of the pilot of the Luckenbach and his corroborating witnesses that he steered for a point about 150 feet to the left of the red flashing buoy and passed the buoy at that distance from it.

I conclude that the Edward Luckenbach was not at fault in passing to the left hand side of the channel or in failing to allow sufficient space for safe passage of the Feltre.

The Luckenbach's other faults.

The Commissioner and the trial court also found the Edward Luckenbach failed seasonably to sound the danger signal and to stop and reverse. The evidence is that there was no apparent danger of collision until the Feltre sounded the two-blast signal and that the Edward Luckenbach instantly sounded the danger signal and signaled to stop and reverse and that the engines were stopped, but that in the short period, estimated at 30 seconds, before the collision there was no time to reverse.

In support of the finding the cargo claimants argue that, whether or not the Edward Luckenbach both violated the narrow channel rule and also failed seasonably to stop and sound the danger signal, she must be guilty of at least one of these faults. According to her own witnesses, they say, the Edward Luckenbach's danger signal and stop order preceded the collision by from ten to thirty seconds. The Feltre could not leave her course in so short a time. Therefore, the collision was necessarily on the course which the Feltre had been on before her two-blast signal was given. If that course was on the range, the Edward Luckenbach, to strike the Feltre as she did on the starboard, must have violated the narrow channel rule. If, on the other hand, that course was to the left of the range, the Edward Luckenbach should have observed that fact and blown a danger signal long before the Feltre's two-blast signal was given.

The answer to this is that, according to Captain Turppa, the Feltre had begun her left turn away from the range before the two-blast signal was given. This turn probably was not observable from the Edward Luckenbach until about the time of the two-blast signal, following which it continued to accelerate until, at the time of the collision, it had placed the Feltre three hundred feet to her left of the range.

Cargo claimants next argue that the Edward Luckenbach was at fault in not sooner stopping and reversing. If, they argue, the collision occurred three hundred feet off the range, as the owners of the Edward Luckenbach contend, the Feltre, to achieve that transverse distance from her course, must have moved forward at least 1725 feet. This estimate is based on turning tables shown in Knight on Modern Seamanship. While the Feltre was travelling this 1725 feet, the Edward Luckenbach would have travelled at least 1574 feet, so that the vessels must have been separated by at least 3299 feet when the Feltre first began to leave the range. In other words, over a minute and a half before the collision, if it occurred 300 feet to the Feltre's left of the range, the Edward Luckenbach should have seen the necessity for stopping and reversing, a precaution which she delayed for more than a minute.

This entire argument rests on the assumption, which is said to be admitted, that the Feltre was on the range until she made her hard left turn. In fact this was not admitted. The Luckenbach witnesses merely testified that the Feltre appeared to be about on the range. Since they themselves were never on the range, they could not do

more than approximate the Feltre's position in relation to it, never with enough accuracy to support the careful structure of computations erected by the cargo claimants.

I conclude that the Edward Luckenbach did not fail seasonably to sound the danger signal, stop and reverse.

The finding of the commissioner and the trial court that the Edward Luckenbach proceeded at an immoderate speed is not sustained by the evidence. The evidence in that regard is that her speed did not exceed 10 or 10½ knots, owing to a head wind and ebb tide.

The commissioner also found that the Edward Luckenbach was at fault in failing to take compass bearings of the Feltre. No such fault was alleged in the pleadings, and there is no testimony indicating that such compass bearings would have been of any value under the circumstances.

The interlocutory order should be reversed and the trial court directed to proceed in accordance with the findings as modified, namely, that the Edward Luckenbach was without fault and the Feltre was solely to blame for the collision.

(Endorsed:) Opinion and Dissenting Opinion. Filed Mar. 23, 1942. Paul P. O'Brien, Clerk.